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THE INAUGURAL ADDRESS AT CAMDEN TOWN.

All our schools have now opened their doors; and to-day we print the inaugural proceedings of the senior institution at Camden Town. The old school was fortunate in securing one of the most distinguished of her graduates to deliver the opening address; and the lecture was well worthy of the speaker's reputation. Characteristically enough, Major-General Smith departed not a little from the beaten track usually followed in these inaugural addresses, and the main portion of his time was occupied by a presentation in allegorical form of the value of observation in veterinary practice. In this all his audience could follow him; but the beginning and end of the lecture, though addressed primarily to students, could probably be fully appreciated only by the more thoughtful of its older hearers. The concluding paragraphs, though their high ideal must have been apparent to at least some students present, would appeal most of all to men old enough to have followed the arduous career of the speaker.

Viewed as a short essay upon observation and judgment in veterinary work, the address is admirable. As regards the former, we might supplement General Smith's words by remarking that though all veterinary surgeons are agreed upon the supreme importance of the observative faculty to them, too few have ever consciously attempted the systematic development of the faculty. All will observe cases to the best of their ability. Few, in the intervals between cases, deliberately cultivate their observing powers in the manner suggested by General Smith. Such a self-training in observing the normal and abnormal alike in animals and their surroundings, while it must increase the accuracy of the naturally acute observer, may be the only possible method by which one less gifted can attain even an ordinary capacity of observation. It was a happy thought to select the habit of observation as the main theme of an address to veterinary students, some of whom may thus be induced to cultivate it at the beginning of their college life. Accurate observation is, it is true, difficult to acquire. It depends partly upon a natural gift and partly upon acquired habit; but whatever a man's gifts in that direction may be, he will find it possible to develope the faculty to some degree by self-training, and that is, of course, best done in youth.

VACCINATION AGAINST BOVINE PIROPLASMOSIS IN THE ARGENTINE.

In 1911, the Ministry of Agriculture of the Argentine Republic published an account written by Prof, Lignières of his system of protective inoculation against bovine piroplasmosis. The publication is a long *brochure*, containing a summary of the whole of Lignières' work against the disease since his arrival in the Argentine in 1897, and tracing the successive steps by which his present preventive method was evolved. The following is a brief summary of its main points.

Upon his arrival in the Argentine, Lignières applied himself to the study of a disease which existed there under the name of "Triesteza," and which he recognised as identical with Texas fever. After confirming nearly all the most important points which Smith and Kilborne had previously demonstrated with regard to Texas fever, he proceeded to devise his first system of vaccination. He used a double vaccine, which was prepared and applied as follows; A first vaccine, consisting of defibrinated blood very rich in *Piroplasma bigeminum*, which had been preserved for at least 30 days at a temperature between 5° and 8° C. was injected intravenously in a dose of 10 c.c. Generally a reaction appeared about the seventh day and lasted for two or three days, after which the animal regained perfect health without having suffered greatly. In this first vaccine the piroplasms were living and virulent; for, if it was injected subcutaneously or intra-muscularly it often produced fatal illness.

The second vaccine, consisting of 1 c.c. of blood very rich in piroplasms, which had been preserved for only 15 days between 5° and 8° C., was injected subcutaneously ten days later, The second inoculation caused no reaction.

This double vaccine was experimented upon at Buenos Ayres and at Paris in 1900; and it was found that it always left the animals immune against an inoculation of virulent blood. At that time the *P. bigeminum* was the only organism known to produce red-water; and Lignières therefore believed that his vaccine would be efficacious in the field, To assure himself of this, he vaccinated cattle and sent them immediately into infected zones. To his great surprise he found that a large number, though resistent to experimental inoculations of *P. bigeminum* made by any channel, yet developed a serious piroplasmosis from the bites of infective ticks. After long research to ascertain the cause of this, Lignières discovered another piroplasm, different to *P. bigeminum*, to which he gave the name of *Piroplasma Argentinum*. He further found that *P. Argentinum* could be successfully used to vaccinate against *P.*

bigeminum, but that *P. bigeminum* did not vaccinate sufficiently against *P. Argentinum*. Analogous discoveries were soon afterwards made in other parts of the world, as by R. Koch in connection with Rhodesian tick fever.

Lignières now endeavoured to vaccinate against *P. Argentinum* by exactly the same method which he had employed in the case of *P. bigeminum*. At first he was foiled by the superior virulence of *P. Argentinum*, which is not sufficieutly attenuated by 30 days of preservation between 5° and 8° C. He found, however, that inoculation with *P. bigeminum* conferred a certain degree of relative immunity against the other parasite, and this led him to devise his first triple vaccine. This consisted of (1) intravenous injection of defibrinated blood very rich in *P. bigeminum* preserved at least 30 days between 5° and 8° C. (2) subcutaneous injection ten days later of *P. bigeminum* blood preserved for about a fortnight in the ice-chamber, and (3) subcutaneous injection fifteen days later of *P. Argentinum* which had been similarly preserved for two or three weeks. Each injection was followed by a reaction of variable intensity. Finally, by using piroplasms from different sources, Lignières reduced all these vaccines polyvalent.

In the case of calves up to six months old, Lignières found that the subcutaneous injection of the second and third vaccines was well borne; and, by further blending of the vaccines, he succeeded in carrying out the vaccination of calves by a single subcutaneous polyvalent injection.

Difficulties still remained, however, in the case of well-bred adult animals. Differences of susceptibility amongst them caused the first vaccine to be often followed by too violent a reaction; and, moreover, the accidental introduction of the vaccine into the perivenous connective tissue (practically constituting a subcutaneous inoculation) was capable of inducing very serious illness. It became necessary, therefore, to replace the first vaccine by a less dangerous one. Lignières dwells at some length upon the difficulties he encountered in this undertaking; it is perhaps sufficient here to indicate the discovery that finally led him to the perfection of his present method. He found that—contrary to his first opinion—the first vaccine acted much more favourably when the vitality of the parasites was extremely attenuated. It then occurred to him that blood which no longer contained living piroplasms might be capable of conferring resistance upon the organism by the action of a toxin, or of a product arising from the evolution and multiplication of the piroplasms in the blood. From his experiments he found this to be correct, and attributes the protective efficacy of the blood to a toxin contained in it.

His first vaccine, therefore, consists (for cattle over six months) of defibrinated blood very rich in *P. bigeminum* which has been congealed in a freezing mixture (ice and salt) for 7 or 8 hours, and afterwards melted at the temperature of the laboratory. It has lost absolutely all virulence, and, if injected subcutaneously or intra-muscularly, it gives neither immunity nor disease. But when injected intravenously, it confers a very marked resistance against virulent piroplasms. Its one great practical drawback is that it begins to lose some of its efficacy if it is kept for more than two or three days after its preparation. This is now Lignières' first vaccine; the second and third remain as described above.

The Argentine Government has decided to establish a station for the manufacture of these vaccines and to authorise gratuitous vaccination by veterinary officials. Lignières says that re-vaccination is not necessary if the cattle are constantly infested by ticks. But if cattle are removed for more than two years from infected areas and it is proposed to again introduce them, he advises that they should first be re-vaccinated. Finally, vaccinated animals should not be exposed to infection till at least a month has passed since the last injection.

W. R. C.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting of the Society was held in the Queen's Hotel, Dundee, on Saturday, May 4th. The President, Mr James Peddie, F.R.C.V.S., occupied the chair. The following were present:—Principal Bradley, Mr. A. Baird, Profs. Wilson and Gofton, Messrs. J. B. Buxton and J. Riddoch, Edinburgh; A. Spreull, jun., Dundee; T. M. Inglis, Forfar; D. Hannay, Kelso; J. Macfarlane, Doune; J. Cameron, senr., Berwick on-Tweed; L. MacLaren, Brechin; D. Constable, Inchture; R. G. Anderson, Cupar, W. Brown, Banchory; and H. Ferrier, Dundee.

Correspondence. The Secretary intimated the receipt of a large number of apologies.

The SECRETARY said that at the last meeting of the Society a resolution had been passed to the effect that the Secretary for Scotland should be approached with a view to his receiving a deputation from the Society in relation to the question of tuberculosis in dairy stock. He had written to the Secretary for Scotland, and he read the reply he had received to the effect that Mr. McKinnon Wood did not see that sufficient advantage would be gained by an interview at the present time.

Mr. CAMERON said that although the Secretary for Scotland had not seen fit to receive them by way of deputation, it did not follow that they should take that as an affront, and take no further action. He thought the President and the Secretary, and any members of the Council within easy distance of Edinburgh, might draft a statement for presentation to the Secretary for Scotland embodying their ideas, just as they would have done if a personal interview had been granted.

The PRESIDENT said that while he sympathised with Mr. Cameron's views he did not think that suggestion they might make to headquarters would do any good. This matter was discussed by the Association of Veterinary Officers of Health, and they sent forward a resolution dealing with the very same point. He thought they should leave the matter meantime in the hands of the Council.

Mr. CAMERON said Parliament was now considering the question, and their point of view should be emphasised. He wished that the hands of the Society should be strenghtened on this matter.

On the suggestion of the President, it was agreed to remit the matter to the Secretary to call a meeting for the discussion of the matter, provided it could be shown that any steps taken are to the advantage of the profession.

Mr. JOHN MACFARLANE, M.R.C.V.S., Doune, was unanimously elected a member of the Society on proposition of the President, seconded by Mr. Inglis.

The PRESIDENT invited the bringing under notice of any other competent business.

Mr. CAMERON said he thought veterinary surgeons might take a lesson from the Insurance Act. What would be the position of the medical profession to-day if their combination and organisation had not been a deal better than that of the veterinary profession? A splendid reason had been given by what had taken place why every member of the veterinary profession should become associated with some veterinary organisation. They never knew when they would be called upon to stand shoulder to shoulder.

The PRESIDENT said this question had been before the Council. It was one of those sort of things which it was very difficult to deal with. There were a large number of men who found it quite impossible to attend meetings. It was difficult to get a man out. He quite agreed that there were many men not members who might, and indeed ought to, become members, and make it a point of attending at least once a year. The only way was for each individual member do his level best to induce his neighbours and friends to join the Society.

LUNCHEON.

Mr. PEDDIE entertained the members and a number of guests to luncheon in the hotel. Amongst the guests present were Prof. Sutherland and Prof. Waymouth Reid, Prof. A. M. Stalker, University College, Dr. Charles Young, Dr. M'Farlane, Dr. Leitch.

After luncheon the President proposed "The King, the Queen, and the other members of the Royal Family." He said that as that gathering was composed for the most part of medical men and veterinary surgeons, he thought he was quite safe in saying that the King had no more loyal subjects than the members of their profession. King George, as they knew, began his reign under circumstances which were somewhat unique and trying. That he had succeeded well he thought they would agree. (Hear, hear). He had by his tact and wisdom and thoughtfulness carried out the duties imposed upon the Sovereign in a manner which he was sure they all thought highly satisfactory. Queen Mary had by her kindliness of heart and thoughtfulness endeared herself to all her subjects, and it was the earnest wish of everyone of them that King George and Queen Mary should have a long, happy, prosperous, and beneficent reign. (Applause).

Principal BRADLEY said he was asked to perform a pleasant duty by proposing the health of "The Guests of the Association." Under any circumstances it was always pleasing to have guests at a meeting of that kind, but in the present circumstances it was even more pleasant, largely he thought because of the fact that most of their guests represented the medical profession, or some profession closely allied thereto. It was practically safe to say—indeed he knew it was safe to say—that all the members of the veterinary profession desired closer contact with the members of the medical profession—(hear, hear)—and it was only by meeting in close contact that certain slight misunderstandings, which did arise occasionally even in the best regulated families, got wiped away. It was, therefore, with considerable gratification that one saw there a number of distinguished members of the medical profession of Dundee, and professions closely allied thereto. He did not desire to take up their time in proposing this toast, because he knew it would have the cordial acceptance of the members of the Association present, and he gave them the toast, coupled with the name of Dr. Young, who had the distinction at the present time of being President of the Dundee Branch of the British Medical Association, an Association which the veterinary profession, it might interest him to know, was endeavouring to follow at some distance. (Applause.)

Dr. YOUNG said he had to thank the President for his courtesy in recognising the medical and allied professions, and for their kindly toasting the welfare of the professions. He also had to thank them for inviting members of the down-trodden medical profession to participate in that excellent lunch. It was somewhat refreshing and gratifying to know that there still existed a profession and an Association like their own on which the fingers of time had so lightly passed, and which had the good fortune to escape the ruthless ravages of rapacious radicalism. (Great laughter.) The medical profession, as they knew, was at the present time wandering in a stormy and sunless valley, but he ventured to think that through mists of uncertainty the leaders were beginning to discern the sunlit hills and the rich pastures of a more delectable country. If the Chancellor of the Exchequer in his wisdom had conceived a scheme whereby the veterinary profession would have been encouraged to promote breeding, better management, and the better care of the horses of this country, he thought he would have done something to prepare the Empire for its day of trial. He thanked them for the enthusiastic reception of the toast so well proposed by Principal Bradley. (Applause.)

Dr. LEITCH proposed "The Scottish Metropolitan Veterinary Medical Society." He said that being an experimental pathologist he felt very much allied to the veterinary profession. (Laughter.) He was not going to dwell on the glorious past of the veterinary surgeons, but rather to consider their more glorious future. There was much in common between the two professions. The laws that applied to the diseases of animals, of which they had more experience than they in the medical profession, also applied to the laws that governed human medicine. There was nothing more honourable in attending upon a human being for disease than in attending what they were pleased to call the lower animals. The medical profession got far too much credit for the good it did. He thought a great deal of the personal element entered into the success of the medical profession, but they could not bluff a horse. (Laughter.) Lord Rosebery once said "We cannot for ever lie on banks of asphodel, basking in our glory, and in our past." Take the problem of tuberculosis; he believed the veterinary profession would play as glorious, perhaps a more glorious part in regard to that disease as the medical profession would. He drank prosperity to the Association, coupled with the name of their President, his very good friend, Mr. James Peddie. (Applause.)

The PRESIDENT said he would have preferred that the reply to that toast had been in abler hands. He must in the first place thank Dr. Leitch for the very kind way in which he had spoken of the veterinary profession and of their Association. The Scottish Metropolitan Veterinary Medical Society was, he could safely say, the largest veterinary association of its kind in Scotland. They numbered now considerably over fifty members, and they hoped in the not far distant future to make considerable additions to the membership. The Society was recruited for the most part from the eastern and southern counties of Scotland, and existed for the advancement of the profession generally, and it looked after the interests of the profession. As Principal Bradley had indicated when he was proposing the toast of "Our Guests," they were at the present moment—thanks to Principal Bradley and Professor Gofton, their worthy secretary—attempting to effect an amalgamation of the various veterinary societies, not only in Scotland but throughout the United Kingdom, with the object of strengthening their position in the event of any question arising which would want a united effort on the part of the profession. The amalgamation, he was pleased to say, was practically *un fait accompli*, and they hoped the results would be in the

interests of the profession. He thanked them very heartily for the way in which they had responded to the toast so ably and kindly proposed by Dr. Leitch. (Applause.)

Professor GOFTON proposed the toast of "The President." He said the toast was by no means the least important on the list. With Mr. Peddie both guests and members of the Society were well acquainted, they all knew the keenness of his interest in anything which concerned the welfare of the Society, and which concerned the welfare of the profession at large. He had referred to the movement which was on foot and which was practically accomplished for the amalgamation of the Societies, and he need scarcely say that Mr. Peddie had a strongly supported movement now going forward. Mr. Peddie had been exceedingly kind in entertaining them that day. One feature of Mr. Peddie's character was his kindness and hospitality. That was well known by all who were acquainted with him, and without saying more he asked the company to drink to the health and success of Mr. Peddie, coupled with their thanks for his kind entertainment. (Applause.)

Mr. PEDDIE, in reply, said it only remained for him to thank Professor Gofton for the way he had proposed the toast, and to thank them all for so heartily accepting it. He was sure it was as great a pleasure to the members of the Scottish Metropolitan Veterinary Medical Society to see so many friends present, as it was personally gratifying to himself. He would like also to take that opportunity of recognising and stating how much indebted he had been to his many friends in the medical profession in Dundee. He had, during the time he had been in Dundee, received nothing but the greatest kindness at the hands of his medical friends, and they were not a few, he was glad to say. He welcomed that opportunity of expressing his indebtedness to them for much valuable advice and kindly assistance. When he felt himself in a difficulty of any kind they had always been most ready to receive him and give him their advice and help, and he was glad to have an opportunity of recognising it. He thought that meeting would be a step in the right direction of bringing the two professions more closely together. He was sure they had much in common. In treating the diseases of animals they had to do with many diseases which were common to both medical and veterinary practice, and he was sure that nothing but the greatest good could come from harmony and good feeling between the two bodies. He thanked them for the way in which they had responded to the toast. (Applause.)

The PRESIDENT, in introducing Mr. Brown, of Banchory, said he had been good enough to prepare a paper on "Impressions of a Post-Graduate Course in Paris." Mr. Brown, he said, was well known to most of them. He was known, at all events, to a great many of the members who were practising in the northern counties of Scotland, and his reputation was equally well known. (Applause.)

IMPRESSIONS OF A POST-GRADUATE COURSE IN PARIS.

W. BROWN, M.R.C.V.S., Banchory.

When asked by your respected Secretary to give a paper to the Scottish Metropolitan Veterinary Medical Society I consented with not a little diffidence. The subject was left open to me, and seeing that I am a recent recruit to the profession, I thought that a paper giving a short account of my experiences in a foreign veterinary school would be an appropriate subject. I appreciate this honour very highly, and I hope that I may be able to make the subject worthy of the occasion.

After qualifying at the Dick College in 1908, I spent a year as assistant and locum. After that I formed an idea that I should like to spend a session in a foreign College, to see different methods and derive different ideas on the diagnosis and treatment of disease in the domestic animals. This idea was stimulated by the advice of the Professors in the Dick. Having a good knowledge of the French language, so far as reading and writing were concerned, although I could not speak the language to any extent, I chose the famous and ancient Veterinary School of Alfort, about three miles out of Paris. This institution, like the other two Colleges, is supported by the Government, and I had to obtain permission to study there. This was easily procured through the medium of the British Ambassador.

I set off in the end of October, knowing nobody and no thing—a stranger to a strange land in the fullest sense of the term. The first time I realised that I was abroad was when I found that half of the passengers on the boat were French. I went down to the coffee room and found two French comedians who could talk no English and two British comedians who could speak no French trying to teach each other the value of their respective monies. Each party knew the other to be comedians, and that was all. I, *plus* a dictionary, was appointed interpreter, and we had a very lively and enjoyable journey to Paris.

When I landed in the dismal station of St. Lazare, about 9 p.m. I should have felt a bit from home had it not been for my friends. I had intended hailing a cabman to take me to an English hotel, but these Frenchmen advised me to enter into French life at once, an advice which I saw the value of afterwards. They were extremely kind, and got my luggage into the luggage room and found me a French hotel where we engaged rooms for a week, they having managed to reduce the landlord's charges by nearly one-half. There is no fixed price in France, it is mostly a case of making a bargain, and the people have an idea that Britishers and Americans are possessed of unlimited funds.

Next morning, after considerable difficulty in following directions, I managed to find my way to Alfort. When I asked the gatekeeper if I could see the Director I was escorted to a room where, after a few minutes, a student entered and spoke in fairly good but broken English. I had a great feeling of relief, as before this I seemed to be tongue tied. I tried to formulate easy sentences in English and to translate them literally into French—a hopeless procedure in a foreign language, but a tendency which leaves one after a time.

This was a student from the Mauritius who had learnt English at school. He escorted me to the Director, M. Barrier, now Governor-General of all the Colleges in France, with whom I had a very pleasant interview. He asked me what I wished to do, so I replied "Learn as much as I can in the time." He said I meant business, and told me I could attend whatever classes I liked and do whatever practical work I wished. My interpreter then took me to interview the various Professors, I was most cordially received by them all and was shown every kindness and consideration the whole time I was there. They were always ready to explain any difficult problem at full length, and were always interested in British methods.

My guide next escorted me over the whole College. What struck one first was not the picturesque appearance of the buildings, but their size in comparison to our Colleges at home. Each Department seemed a College in itself. Each Professor had his own rooms, lecture theatre, and laboratories. Being an ancient College one would naturally expect to find a fine collection of specimens in each laboratory; this in fact was the case. The Zoology and Botany Departments had a very full, well arranged, well preserved collection of specimens, which were undoubtedly of great value to the students. Botany was taught in the grounds, which were full of a large collection of plants and trees. The Anatomy De-

partment was as fully equipped, bones and skeletons of all the animals were beautifully preserved on an extensive scale, while there were numerous casts and models of groups of muscles. organs, etc. Other Departments were similarly equipped, the Pathological and Bacteriological Divisions in particular. There was a beautiful collection of horse shoes and farrier's tools. The Library was extensive, and included a full collection of foreign books and magazines. A Riding School was attached to the College, and the Government Department, similar to our Board of Agriculture experimental station, was included within the grounds, superintended by Prof. Vallée. These are a splendid arrangement of buildings, built after the system of Nocard for infectious hospitals.

The course extends over four years, the same as in Britain, but the session is rather longer. It continues from October to July with only a short holiday at Christmas and Easter. Classes are somewhat similar to here. Materia medica is taught in the second year as in the Universities. Bacteriology is taught in the final year along with the course on contagious diseases. The lectures are very full and scientific, and a great amount of time is devoted to practical work in every class. In the final year there is a class for zootechnique taught by a Professor of Agriculture. Such a class might well be added to our British course, where students might learn the points and characteristics of our various breeds. The Professors are all men of outstanding merit, most of them have a medical or a science degree. There is one Professor for each subject, and one qualified assistant, but in pathology and bacteriology there is a Professor and assistant for each, while there are two Professors of Surgery and two assistants Most of the lectures are given by the Professors, while the assistant attends to the practical work. In France, as in Germany, the Professor is largely an experimental worker; he is well paid, and receives every assistance and encouragement from the Government to carry on his experiments. This is as it should be. It is to such men that we look for most of our research work. For this reason I believe the foreign countries have got ahead of us in experimental research. In this country the Professor is underpaid, he has no assistance, he receives no help from the Government, and he has to do too much class work, which leaves him little time to indulge in scientific pursuits. I do not think the standard of students in France is so high as in our own country. The preliminary examinations are easier, which I think is a mistake. The standard of the entrance examination in any scientific profession should be on a fairly high level, not only to keep back a number of undesirables, who would be a drag on the profession, but the elementary knowledge would be of great value to the student during his course and in after life.

Latin and Greek should be compulsory subjects in such a preliminary examination in order that the student may fully understand the meaning of scientific terminology.

The students are resident in the College, they are allowed off on Thursday afternoons and Sunday. Saturday is a working day. The inclusive fee is about £25 per annum. There are about 300 students at Alfort, a large number have a Government grant of about that sum, while a number have a grant of half that sum, so that their education costs them little or nothing, the College being almost entirely supported by the Government. The result of this easy preliminary examination and almost free education is, I think, to reduce the status of the student, and profession as a whole. Certainly want of funds keeps back many an excellent man, at the same time there is the other side of the question. One may study whatever subjects he may choose. The course I took was as follows:—From 6.30 to 8 I took M. Cadiot's course on equine medicine and surgery, and M. Moussu's class on bovine medicine on alternate mornings. Eight o'clock was the visitation hour, the Professor conducted the students round the horses and dogs in the hospital. There was an average of fifty horses and dogs and a few cattle, sheep and goats, mostly kept for experimental purposes. The fourth year students had a horse and dog each to dress for a week, assisted by a third year student. Notes and temperature charts were kept. After a visitation the new cases which had come in were examined by the Professors and students. Horses and dogs might number from 30 to 50. Then commenced the operations for the day. There were two operating tables in the yard and two sets of stocks. What struck one most was the number of operations on the foot—probably due to bad shoeing. The number of operations for quittor was exceptional. Castrations, normal and cryptorchid, and firing were numerous. The cryptorchid operations was carried out on the Danish principle. Every Monday morning a number of students had to do operations on the dead animal under supervision of the Professor. This I found most valuable. The forenoon's work was finished at 11.30. In the afternoon I attended the Pasteur Institute for a course on bacteriology. Here we had a full course of 97 lectures of two hours each, given by over twenty different specialists, and three to four hours of practical work to follow. This was a most valuable course. The laboratories were splendidly equipped, and we were well supervised in our work by the teachers and directors of the laboratory. We had excursions to similar institutions and places of bacteriological interest, especially Garsh, where the Pasteur sera are made.

How much, or little, I learnt it would be difficult to estimate, but one thing is certain, it gave me a much wider outlook on veterinary science; one saw new methods, one gained new ideas, and I returned with the feeling that the money was well spent. The cost of living is about £2 per week. The fees for a foreigner at Alfort is £8 per annum, that is really to cover the cost of materials used in the practical work. The lectures are free. In the Pasteur Institute the lectures are also free, and the fee for the practical work is £4. I would strongly advise any student who has a fair knowledge of French, and £100 to spare, to take a similar course. There is ample opportunity for study and research in every branch, and he will have every courtesy, consideration, and willing help from professor and student alike.

Discussion.

The President invited discussion on Mr. Brown's paper which he said had been most interesting and instructive.

Mr. Andrew Spreull, junr., said he had appreciated Mr. Brown's paper very much. To him it had revived old memories, because he had spent a happy time at Charenton. What struck him more than anything was the Frenchmen's slowness in operating and the fact that they did not seem to take any risks whatever. They, Scotsmen, mostly were accustomed to taking a good deal of risk in their operations. The Frenchmen seemed to tie the animal so that there was not a quiver or a move in them at any price. They had never heard of standing castration in 1904 at all, and they simply pooh-poohed it. They thought it was impossible. Of course most of their castrations were done on animals that were, as Mr. Brown said, aged and vicious before they were brought in. But their place was magnificent, their grounds were perfect, and their hospitality was simply amazing. (Applause).

Mr. Riddoch said the French were said to be leading the world in bacteriology just now, and he was sure Mr. Brown could not have gone to a place where he could have got a greater insight into that important science.

Mr. McLAREN said he had listened with considerable interest to Mr. Brown's description of the French school and the methods of work there. It was exceedingly interesting to know how other people got at their work and how they managed. He should have liked to have had the opportunity that Mr. Brown had. It was of enormous advantage in widening a young man's view of things, especially when one got into touch with the College at Paris which was so efficient in bacteriology. He had always thought that our scheme of veterinary education on the bacteriological side was lacking in essential points. He did not know how it was at the present time, but in his own time, and even for a considerable time after he left the College, he thought the bacteriological course was too scrappy. Things were not done so thoroughly as they ought to have been.

Mr. CAMERON said he had been simply delighted with Mr. Brown's paper, and several of Mr. Brown's ideas harmonised with his own. The first was with regard to the question of Greek. With regard to the preliminary examinations being high or low, it was a great vexation to him when their Scottish representatives consented to level the veterinary examinations—England and Scotland—to level them downwards. As he said then, they ought to have levelled it upwards, or else let it stand where it was. The highest was too low even, and he thoroughly agreed with Mr. Brown's point of view on this subject. With regard to national support of veterinary science in France those of them who were at the National meeting in London last year, and the previous year, would perhaps remember that he prepared two resolutions. One of these was a request that the Government should give larger support to the experimenting in and the elucidation of obscure diseases in animal and vegetable life. He made the resolution broad enough to take in the whole range. He did that for two purposes. A copy of the resolution was to be sent to the Government. He put down these resolutions to elucidate the work of minor subjects which he was sure was being lost sight of. These resolutions would have shown to the whole agricultural world that the veterinary surgeons were taking an interest in them and that they were using their influence on the Government. It was also indirectly showing that the Government was not doing its duty, and he still thought it would have been right on its own merits that the resolution should have been passed. The Government could do a great deal more not only for veterinary science but for the elucidation of obscure diseases both of animal and vegetable life. (Hear, hear). It was a long time since he was President of the Association, and he had often thought whether each successive President might not be able to collect as much money as would raise a bursary available for some one to go and get the benefits which Mr. Brown had received. (Applause).

Professor GOFTON said he had listened with very considerable interest to Mr. Brown's paper. It had reminded him of the fact that a few years ago he had paid a visit to Alfort and seen a little of the methods there and a little of the school. One thing struck one prominently in connection with Mr. Brown's paper, namely, the position in which the school stood in France in relation to the Government and the position in which we stood in this country, and the difference it made in the equipment and in the efficiency of a school to have a kind of foster parent in the form of a Government. In this country the schools were obliged to struggle along, wanting finances, and hampered on all sides in efforts to make the income meet the expenditure. It had an influence not only on the teaching of the equipment, but it had an influence also on the staff. Mr. Brown said that the French professors were well paid and well supplied with assistants, and they were provided with every opportunity for doing original work, which was of value in the interest of the profession, in their teaching work, and which was also of value in a general light from an economic point of view. That contrasted very strongly with what prevailed in this country. In comparison the staffs of the Colleges in this country were underpaid and were obliged to spend a very considerable part of their time doing work of a more or less routine character. This prevented them doing other work which was more valuable, and which the profession and the public looked to the members of the teaching staffs to do. From the attempts which he had made in that direction himself—he could say that anything of that kind which was attempted was only done at a very considerable self sacrifice in both time and money. One was glad to say that in this country there was a movement in the direction of obtaining State aid for the schools, and he was quite confident that if the schools, and the staffs of the schools, received the assistance in equipment, in pay, and in time, which would permit them to do original work, that ample return would come to the State and to the public as a consequence. Mr. Brown had spoken also about the practical and the theoretical sides of the teaching. Here, again, he thought in teaching we could gain a few points, because the term practical teaching, used in its widest sense, meant a very great deal. It meant more than simply the diagnosing of ailments. He need scarcely point out that the practical application of the work from the very earliest up to the end of the course was a very, very important point, and one which was strongly emphasised in connection with the teaching abroad. The fullest practical teaching was most desirable, because from it students would get infinitely more return and more good than from the purely theoretical side. In connection with the French clinical work which had been referred to by Mr. Brown, on the one hand he (Mr. Brown) thought that they were extremely sharp and extremely quick in Alfort in their surgical work, and Mr. Spruell seemed to have gained the opposite impression. He was not sure that they were not both right.

Mr. BROWN: I referred to Prof. Cadiot only.

Prof. GOFTON said Mr. Spreull was right in this respect, that no matter who was going to do an operation a great amount of time appeared to be spent in preliminaries. They would spent a whole forenoon preparing a foot for Prof. Cadiot to come and remove the lateral cartilage in a few minutes. With their methods of firing he (Prof. Gofton) had no sympathy. The firing was done with a half cold iron, and as Mr. Brown had said, they would take the whole forenoon to do it. While the French had very much to be commended in their methods there were still points which were open to criticism. That was one of them, but he did not propose to detain the meeting any longer by speaking of them. He only wished personally to express his thanks to Mr. Brown for his very interesting account of his visit to Paris. (Applause.)

Professor WILSON remarked he had nothing to add in regard to the undoubted advantages and facilities for teaching enjoyed by Continental schools. At the same time it appeared that their structural arrangements were not all that could be desired. To cite one instance, he understood Mr. Brown to say that the operating theatre had rows of boxes used for sick and lame horses on two or three sides of it, and these boxes were used for animals after major operations. It occurred to him that the opportunities for infection under these conditions were very great. He was interested to hear of Professor Cadiot's flank operation for cryptorchids, and asked Mr. Brown to favour them with a more detailed description. This method in vogue at Alfort was apparently preferred to the ordinary inguinal operation which was successfully and almost universally practised in this country. Personally, he would be very sorry

indeed to open a horse's flank when he could gain access to the abdomen through the side of the inguinal canal. He had yet to come across a case in which operation by this method was impossible, whilst in quite a number of cases, it was well known, the missing testicle was waiting for them in the canal, and the abdomen had not to be penetrated at all.

Mr. INGLIS said he would advise Mr. Brown to stick to the inguinal canal method of operation for rigs. He had heard a great deal about the flank operation. It was tried a good deal in this country at one time, and with very poor success. Ever since the inguinal operation had been common the results had been quite different.

The CHAIRMAN said he thought Mr. Brown's paper was an excellent one, and he was sure they were much indebted to Mr. Brown for coming the distance that he had to their meeting. Certainly he had always known that the technique on the Continent was of a very high order. Reference had been made by Mr. Brown with regard to firing, in which he said that in France they not only fired in line but they point fired as well. He (the Chairman) must say that in some cases, especially in bursal affections, firing did a great deal of good. One or two of his English friends some time ago told him in firing under certain conditions after line firing in one direction to immediately cross fire in the opposite direction. He certainly thought that this was an excellent method of firing, and there were some cases in which he adopted the system of line firing as well as point firing—spavin was one of them. Repeatedly when firing for spavin he both line and point, and point fired deeply, and he certainly thought that by that method one got better results. He had also noticed Mr. Brown's reference to the castrations of cryptorchids, and he was glad that Professor Wilson and Mr. Inglis had also referred to that. He had no experience of this method at all. He had now operated on something like seventeen, and all by the inguinal method. He took it that the incision must be somewhere pretty high up the abdominal wall if no sutures were inserted, otherwise there would certainly be a risk of hernia supervening. Mr. Brown had told them that only if the hand had to be inserted into the abdomen were stitches inserted, and then only in the peritoneal covering. Perhaps Mr. Brown would tell them exactly the position in which the incision was made, and any other particulars he thought desirable. Mr. Brown had referred to the cases of horses and cattle, but had said nothing with regard to the canine patients. He would like to ask Mr. Brown who took charge of this department, and if he saw many operations carried out there, and whether they were very successful. He should specially like to ask him if he ever saw any operations carried out for the removal of those venereal tumours which they got frequently in dogs both in males and females, but especially with regard to females, and the method of operating for the removal of these tumours when they were situated well up the vagina in the region of the os uteri. The President further stated that Mr. Brown had given a good deal of his paper from memory, and he thought Mr. Brown should take the trouble to commit all his remarks to paper, because he fully realised that it would be of value to the profession—to the younger members in particular.

Mr. BROWN, in replying, returned thanks for the very kind remarks which had been made concerning himself. It had been a very great pleasure indeed to him to come to Dundee and be treated so hospitably. He thought that they had too little intercourse with one another. They should meet as often as possible for the interchange of their views. It would do something to brush away that back-biting which was too common in the profession. He was very glad that they had discussed his paper so fully and brought many things to his memory which he had really forgotten. He had not had a note of his remarks for two years, and it was simply from memory that he had been talking to them. Mr. Spreull had referred to the risks that they took in this country. The Frenchmen seemed to take every risk. The owner came to the College and handed over his horse and he left it entirely in the hands of the Professor, whether he was to get it back alive or not. (Laughter.) So far as their medical treatment was concerned he did not think it was very heroic, but their surgical treatment was most so. With regard to the hospitality of the people, one could not believe that one could receive such hospitality. It was not only on the first date that the stranger went there, but it was on every day until the very end. He thought the bacteriological course in this country was far too limited, looking at the bacteriological knowledge they required now with regard to contagious diseases—anthrax and the other diseases—which were under the Diseases of Animals Act. In France there was a very full course of practical bacteriology, and there were specimens of every kind. If a student was not thoroughly conversant with bacteriological diagnosis he had every opportunity to be so. With regard to bursaries for students, Mr. Brown said whilst he was at the Pasteur Institute, there were one hundred and fifty-five students—one hundred and fifty medical men, and five veterinary surgeons. Every country under the sun was represented with the exception perhaps of Japan. There were students from Greece and Turkey, from the Argentine, Borneo, and almost barbarous countries which had awakened to the fact that they required men of knowledge and had given them money to come there. All of these students came to the Pasteur Institute State-aided. Of the five "vets" one was a Frenchman from Montreal, another from Lyons, another was the Chief Veterinary Surgeon to the Government of Roumania, the fourth was the first Chinese veterinary surgeon who had returned to the Institute and College by the aid of the Government in Shanghai, and the fifth was himself. Of the one hundred and fifty medical men there was one British doctor from London, with whom he (Mr. Brown) worked. That doctor had a bursary, and he (Mr. Brown) was perhaps the only one of the one hundred and fifty-five students from all countries that had no bursary. So far as practical teaching was concerned, reference had been made to specimens. Prof. Cadiot, Prof. Moussu, or any other of the Professors scarcely ever came to lecture in the morning without bringing a huge number of specimens. Alfort being an old College they had had ample opportunity of collecting and preserving specimens for a long number of years, and it was a great advantage indeed to see the tables filled with specimens. These specimens the Professors described for probably ten minutes after a lecture. Outside our own country and America, time for study seemed to be a matter of no account. Frenchmen, Germans, and Continental students generally would plod away for any any length of time. They would sit up to six or seven o'clock in the Pasteur Institute or even to eight or nine o'clock in the evening, and be at it again at six o'clock in the morning.

Referring to Prof. Wilson's remark with regard to the danger of infection, Mr. Brown said that with all their science, little heed was paid to the disinfection of the boxes. This was seldom done, with the result that sometimes after castration septicæmia and such like infections occurred. It was a very strange thing that their chief disinfectant was permanganate of potash. A student would give a cryptorchid a rub over with a solution of permanganate of potash: the operation was done and nothing happened. As to the method of castrating cryptorchids, he (Mr. Brown) castrated four last year with success, but he did not do it after the method of Cadiot (Danish) nor by the inguinal method

exactly. It was a sort of between hands, the puncture being external to its deep inguinal ring. Mr. Brown illustrated by a drawing Prof. Cadiot's method. He said the incision was made almost up to the flank, then he took his fingers and separated the abdominal muscles, not straight in, but in the direction of the flank until he came to the peritoneum. Then he took an instrument—a piece of iron silverised, and punctured the peritoneum. Then he put in his two fingers, turned back, and searched in the region of the canal. If he could not get the testicle there he put in his whole hand. If he got the testicle with two fingers he let the animal up. The direction of the skin, muscular wound, and the peritoneal wounds was not perpendicular. They were not in a straight line. The one shut off the other as it were. If Prof. Cadiot had to put in his whole hand he would insert three stitches with a long needle into the peritoneum. He (Mr. Brown) did not remember a death. At the same time he did not believe in that method. The method he adopted was to open the skin in the ordinary position, and get his hand in a sort of over upward direction in through the canal. The muscles were punctured external to the inner ring. Here, also, the wounds were not all in line, which renders eventration of the bowel less probable. When the animal got up the lips of the wounds are approximated. However, everyone had his own idea on that point. With regard to canine operations that was the one thing he always missed. Prof. Cadiot and his colleague Prof. Coquot attended to these, and they all were done in the afternoon, during which time he was at the Pasteur Institute.

The CHAIRMAN said he desired to propose a very cordial vote of thanks to Mr. Brown for his paper which had been most interesting and instructive.

Prof. WILSON said he had great pleasure in seconding the resolution, and he also thought that the paper should be printed in full. It was one of the most interesting papers he had ever had the pleasure of listening to.

ROYAL VETERINARY COLLEGE.

The Winter Session was opened on Tuesday, Oct. 1, at the College buildings, Camden Town, N.W. Mr. Stewart Stockman was in the chair, and he was supported by Sir Thomas Elliott, General Pringle. Prof. Macqueen, and Principal M'Fadyean.

Amongst others present were Sir Francis Duck, Col. Walker, Major Todd; Profs. Almond, Hobday, Woodruff, Wooldridge; Messrs. Bloye, H. J. Dawes, G. D. Martin, R. J. Foreman, T. Huband, W. Hunting, H. Leeney, H. A. MacCormack, Martin, Mulvey, Salusbury Price, Prosser, R. Roberts, J. Rowe, F. Sampson, P. J. Simpson, S. Slocock, and S. Villar. Mr. Thatcher (Solicitor to the R.C.V.S.) and Mr. Bullock (Secretary) were also present.

INTRODUCTORY ADDRESS.

Major-General SMITH: Mr. Chairman, Sir John M'Fadyean, and gentlemen,—When I was honoured with the invitation to deliver the introductory address at this School, my chief anxiety was the selection of a subject suitable not only to students of standing in the College, but also to those who have just joined, and for whom primarily the introductory lecture of days gone by was mainly intended.

The usual opening lecture contains the collective wisdom of observing and earnest men, teachers and laymen, who endeavour to present the newly joined student with the cream of their experience. If all the introductory lectures were published which have been delivered in this institution they would fill many volumes and represent a veritable storehouse of ripe experience, sound judgment, and oratorial effort. It would be interesting to know how many students have availed themselves of the advice so given. The fact is we value nothing which is easily obtained, and of all gifts, the young value good advice more lightly than anything else. I venture to think that probably not more than one student a year in this school has been influenced by the wisdom annually poured forth in October. We all have to learn from the beginning in everything, our knowledge starts from the simplest elementary cell of experience, and by no process can the period of multiplication and differentiation of the cell be hastened, and no other than those provided by the body can be of any use to it.

I do not say that in intelligence and wisdom all men are equal, or equally endowed There are many who learn little or nothing from experience, and who go through life with an astonishingly small amount of wisdom. It is evident to all who have lived long enough to observe, that every man must fill up that portion of his brain devoted to knowledge with the facts of his own laborious accumulations, and that those belonging to other people are of little or no use to him. Holding these views, I have proposed to myself to make a departure in the introductory address, and instead of telling you how to become good and and industrious students, I intend to tell you how to collect and utilise the information which will make you good and skilful practitioners.

There is very little intuitive knowledge in the world, but there is an intuitive capacity for acquiring knowledge, and an intuitive skill in utilising it. Speaking generally, all knowledge is the outcome of experience, and the two tutors of experience are observation and experiment. The application of experience in order to elicit truth is the quality known as judgment. I intend this afternoon to deal with the two qualities, observation and judgment in the construction of the veterinary practitioner.

It must be evident to you that in clinical work, especially with dumb patients, you cannot gain knowledge excepting by observation, and in order to become skilful all your efforts must be devoted to observing your patients. If you could learn about disease from books there would be very little reason for the existence of an institution of the kind we are in to-day. No book, however, will present an exact picture of the case you are searching for, for the good reason that no two cases of the same disease are ever exactly alike. I may illustrate this all important fact by reminding you of the doctrine of combinations and permutations, or the art which teaches the number of possible ways in which a given number of things may be mixed. One of the simplest examples I can select to convey this lesson is to ask you to consider the number of possible ways in which the names of the seven days of the week can be arranged. It can be shown mathematically that the number of possible orders, including the existing one, is no less than 5,040. In the example here selected as few as seven things can be so mixed as to be capable of arrangement in 5,040 different ways, so that if we chose we could for 5,040 consecutive weeks have a fresh order in which the days should follow each other. Accordingly, if we started with the existing order it would be ninety-seven years, less four weeks, before it would again be reached.

Now it seems more than probable that the number of possible ways in which the factors which make up disease may be mixed accounts for the fact that no two cases of the same trouble are exactly alike. We do not know what these factors are, they may be purely chemical changes, they may be partly chemical and partly tissue, they may be wholly tissue. We know nothing of the subject at present, so that in speaking of chemical

and tissue changes I am only employing convenient terms to express my thoughts. Whatever the changes occurring in the body may be which admit of its passing from a physiological into a pathological condition, it appears certain that they are capable, like the days of the week, of a large number of possible arrangements—which explains why every case of the same disease is a problem in itself. This cannot be too seriously committed to mind if we are to appreciate the surprises which await us in practice. Is is the inability of the public to learn this lesson which supports the race of quacks, of cure-all remedies, and the publication of *The Family Prescriber* and *The Stable Companion*.

In every observation one or more of the senses of sight, hearing, touch, smell, and occasionally taste are employed. All these senses are not of equal importance in clinical work, yet none of them may be neglected if we are to keep our powers of observation at the highest level. There are many varieties of observation, and probably no one man possesses them all equally developed. There are some people who never forget a face, the mental picture is ineradicable ; some never forget horses they have once seen, others can never remember them. There are people so unobservant as to locality that they do not recognise a street they have seen before, and others who never fail to remember one along which they have once passed. Similarly there are men who can see clinical features and differences when they are pointed out, but fail to find them for themselves, yet the recognition of these differences in practice is of the utmost moment ; and there are even commoner features in connection with the sick or their surroundings which some utterly fail to notice. I intend to present to you to-day as the basis of my remarks a part of the satirical story entitled "Zadig," written by Voltaire in 1747. It illustrates the power of observation, and, though it is doubtful whether he ever intended it to be taken seriously, you will recognise when I have related it to you, the framework of the now far better known Sherlock Holmes.

"Zadig" was a young man who sought for happiness in the study of Nature. He believed there were no delights equal to those of the philosopher who reads in this great book the truths which are always set before him. He retired to a country house on the banks of the Euphrates in the vicinity of Babylon. Here his especial study was the properties of animals and plants, and he soon acquired a sagacity that showed him a thousand difference in these, where other men saw nothing but uniformity. One day when walking near a wood he met several of the palace attendants running hither and thither like men bewildered, and searching for some precious object.

"Young man," said one of them, "have you seen the Queen's dog ?"

"It is a very small spaniel" replied Zadig, "it is not long since she had a litter of puppies, she is lame in the left fore limb, and her ears are very long."

"You have seen her then ?" said the attendant. "No," answered Zadig, "I have never seen her."

At this moment the finest horse in the King's stable broke away from his groom on the plains of Babylon. The Grand Huntsman and other officers ran after him, and passing Zadig, asked him if he had seen the King's horse pass that way.

Zadig replied, "It is the horse which gallops best of the King's horses, he has small feet, and is 15 hands high, his tail is 3½ feet long, the bosses on his bit are of gold, and his shoes are of silver."

"Which road did he take ? Where is he ?" asked the grand huntsman.

"I have never seen him" answered Zadig, "and I have never heard anyone speak of him."

The palace officials had no doubt that Zadig had stolen the dog and horse, so he was arrested and brought before the court, which condemned him to a flogging and transportation for life. Scarcely had the judge pronounced sentence than the horse and dog were found. The judges were accordingly under the disagreeable necessity of amending their judgment, and consequently fined him heavily for having said that he had not seen what he must obviously have seen.

He was allowed, however, to plead his cause before the court, which he did in the following terms :—"Inasmuch as it is permitted me to speak before this august assembly, I swear to you that I have never seen the queen's dog nor the horse of the king. Hear all that happened. I was walking towards the little wood where later on I met the palace officials, and saw on the sand the footprints of an animal. I easily decided that they were those of a little dog. Long and faintly marked furrows, imprinted where the sand was slightly raised between the footprints, told me that it was a bitch whose teats were drooping, and that consequently she must have given birth to young ones only a few days before. Other marks of a different character, showing that the surface of the sand had been constantly grazed on either side of the fore paws informed me that she had very long ears ; and as I observed that the sand was always less deeply indented by one paw than by the others, I gathered that the dog was a little lame. With respect to the horse of the king, you must know that as I was walking along the road in the wood I perceived the imprints of a horse's shoes all at equal distance. There, I said to myself, went a horse with a faultless gallop. The dust upon the trees, where the width of the road was not more than seven feet, was here and there rubbed on both sides 3½ feet away from the middle of the road. This horse, said I, has a tail 3½ feet long, which by its movements from right to left has whisked away the dust. I saw where the trees formed a canopy five feet above the ground, that leaves had lately fallen from the boughs, and I concluded that the horse had touched them, and was therefore 15 hands in height. As to his bit, he had rubbed its bosses against a stone. Lastly, I inferred from the marks that his shoes left upon the stones on the ground that he was shod with silver."

I have ventured to give you a detailed transcript of this being of Voltaire's imagination, inasmuch as the penetration and close observation of Zadig should be imitated by you if you are anxious to succeed in life. It is perfectly possible by acute observation to be able, by his methods, to learn for yourself what your patient can never tell you, what the attendant may deliberately misrepresent to you, and even the owner may lend himself to measures opposed to his own interests. The observant man by the employment of his senses is rendered independent of outside assistance. Though Voltaire's story in the above connection stops at the point mentioned, I propose to take the liberty of retaining the creation of Zadig, transforming him into a veterinary surgeon, and continuing the story, which might run somewhat as follows :

The King of Babylon was so impressed on hearing of the subtle discernment of Zadig that he determined to test his powers by directing him to inspect his stables and horses. He had long been dissatisfied with their management and care, and this was an opportunity not to be lost He, however, directed that no help of any kind should be given him, and Zadig, who readily accepted what appeared to him to be a challenge, undertook to ask no questions, and to base his opinion on his own observations. One by one the horses were seen, some in the stable, others outside for further observation, but in no case was a word spoken. The king then requested a report to be made to him. Zadig was ushered into the royal presence and spoke in the following terms :—

"The stables of your Majesty are not conducted on a modern system of sanitation, for the bedding has never been removed from beneath the horses, nor the stall and boxes swept out."

"How can that be true?" said the king, "for with my own eyes I observed that the straw is always clean and new." "True," replied Zadig, "but only that on the surface; beneath, and hidden from your Majesty's eyes, is soiled material compressed into a mass through frequently lying and standing upon, and it could not have reached its present condition under several weeks" "Continue," said the king. "Your horses do not get sufficient water to drink, for I observed that, though by the hour of the day they were already watered, the sound of the stable bucket when moved caused many to prick up their ears and look anxiously round. The majority also receive too much corn, for their excrement is foul from excess. Your grey horses are not permitted to lie down at night in case they soil themselves."

"How is this known to you?" said the king. "For the reason that their hindquarters bear no marks of the straw, and as they had not been groomed when I saw them, the straw marks should have been evident. Moreover, though grey horses, their quarters were unstained, which they certainly would have been from lying on their dung at night." The king motioned that Zadig should continue "Your forage store is badly placed, and there are indications that corn is carried away from your stables and given to others."

"In what way do you arrive at a charge so serious?" said the king. "By the fact," replied Zadig, "that I saw corn on the ground, and following the trail, it led away from the stables, and through the garden of the palace to the high road beyond. Oats are out of place in a garden, and there was doubtless a hole in the sack which contained your Majesty's property. Nor," added Zadig, "is the matter of recent occurrence, for some oat plants have grown up, the result of seed dropped weeks ago." "Proceed with your report," said the king. "Your young horses are being worked beyond their strength and years, for many are brushing, and already the legs of some are looking worn, though the age of the horses tells me it is not long since they were broken. Among those responsible for riding your Majesty's horses is one with a temper unsuited to the work; he is rough in his methods, for the chastisement of yesterday may still be discerned by the marks of whip and spur. His violence and roughness in dealing with these horses is shown by their extreme nervousness and apprehension when approached, and more than one bore marks of injury to the eyeball where it had been struck by a whip. The man who did it was left-handed, for in each case the near eye of the horse was the injured one. That the marks on the side were inflicted by a spur is evident from their position, and I also observed dried blood and hair on the spurs of one of your servants. Your Majesty, as a humane man, will be pleased to learn that one of the horses so treated threw its rider."

"How can that be known to you," said the king. "By the long spur mark up the horse's flank," replied Zadig. "Among your Majesty's young horses is one with a severe cold, but I did not see him."

"In that case," said the king, "how can you possibly know?" "I entered the empty stall, and the wall above the manger and the manger itself bore the fullest evidence of being occupied by a horse with a severe cold, for a considerable amount of discharge had been snorted about, and some rubbed on the wall. Moreover, the case is a recent one, and was in that stall this morning, for some of the discharge was still quite fresh."

"Leave the young horses," said the king, "and tell me something of those which are at work." "Your Majesty would be well advised to have the windsucker standing third on the left in your sixteen-stall stable removed."

"How can you so precisely indicate the horse which is wind-sucking? Did you see him doing it?" "No, replied Zadig, "I heard him."

"But that might be any other horse than the one you mention." "It might, your Majesty." said Zadig, "but the one I have indicated is the one so affected, for the manger bears the marks of his teeth, and the teeth themselves are worn away."

"What of the others in the same stable?" said the king. "The seventh horse on the left had some affection of the back teeth, for I observed he dropped the food out of his mouth when partly masticated, and I found several such masses in the manger."

"How long has this existed?" enquired the king. "Not long," replied Zadig, "for the horse's condition is scarcely yet affected thereby. In the same stable were several cases of thrush."

"How do you know of their existence?" "By the smell," replied Zadig. "You have also a roarer in that stable, though I cannot indicate him without more time."

"Then how do you know of his presence?" "I heard his cough," replied Zadig.

"But many horses cough which are not roarers," said the king. "True, your Majesty; but a horse which coughs as a roarer coughs cannot be other than a roarer."

"Is there much more wrong in that stable?" inquired the king. "Only that you have a case of stringhalt in the bottom stall on the right, for I noticed he snatched his hind leg up when made to move. You have also a confirmed kicker in that stable, for apart from the fact that the woodwork of the stall has recently been repaired, I observed the off hock was capped, and the replaced woodwork on the right of the stall was already deeply indented with the shoe. He would be better placed by himself, for he kicked his stable companion this morning."

"Did you witness this?" said the king. "No," replied Zadig, "I saw a small wound on the near hind shank which could only be a kick, and it was fresh."

"Is there any further trouble in that stable?" "It would be well to place in a safer position the horse that stands near the door on the right, as he both bites and kicks."

"How do you know that?" asked the king. "The expression of his face and eyes, and his ears laid back tell me that he had bites; the whisking of his tail informs me he is a kicker.

"Tell me something of my sick horses." said the king. "It is a great pity that nice young horses in the first box will die," replied Zadig.

"Die!" said the king; "Why, the Grand Huntsman said he was better to-day." "He is worse, your majesty; he has acute pleurisy, and since yesterday he has got water in the chest."

"How can this be known to you?" said the king. "He is young, and pleurisy is common in the young; he stands in one position with his elbows turned out, he is breathing rapidly, and grunts every time he breathes."

"Why!" inquired the king. "Because it hurts him to fill his lungs with air."

"Explain how you know there is water in the chest." "The peculiar movement of the flanks in breathing tells me this with certainty, and I judged that it occurred since yesterday, as your majesty was under the impression the horse was better to-day. An apparent temporary improvement commonly follows effusion."

I think at this point we can dispense with the further service of Zadig. I have endeavoured to illustrate how much may be learned about anything by keeping your eyes open, and your common sense at concert pitch. The value of close observation in veterinary practice can never be exaggerated; by means of it the puzzle may be put together piece by piece, and the examples given of

the methods of Zadig are no exaggeration of flight or fancy. As a familiar example of acute observation, I would remind you of the extraordinary ability a woman posseses of taking in, with an almost imperceptible motion of the eyeballs, the entire costume from head to foot worn by another. The tints, the texture, the cut, the nature of the lace or embroidery, nay, even the price, are known at a glance, and moreover are not forgotten. The same sweep of the eye, though with greater deliberation, is what your patients should receive from you ; be certain that there is something to learn if only you can see it.

It is true that there are some clinical conditions where the symptoms are so obtrusive that they cannot be overlooked. For instance, one can diagnose lockjaw or laminitis as far off as the horse can be distinctly seen ; they could even be recognised at a considerable distance with glasses. Choking, or, more correctly impaction of the œsophagus in the horse can be diagnosed at a glance. There is no occasion to doubt the existence of an acute sore throat if food or water returns through the nostrils at every swallow. You need not believe the horse is unable to urinate, if with the hand in the rectum you find the bladder empty. Yet some extraordinary stories of such difficulty will be told you, even in the face of the floor being found wet when the litter is turned aside. If a man tells you he has picked out his horse's feet every day, and on looking at them you find them full of moss litter on which the animal has not been standing for a week, you are under no obligation to believe him. There is no case in which the veterinary surgeon gets such credit for sagacity as in that rare affection arterial embolism of the hind limbs. This may be diagnosed from its history alone, though unless you intend to ride for a fall, you will never make any diagnosis before seeing your patient.

I would warn you, however, against regarding observation as a something readily acquired. As a matter of fact, accurate observation is most difficult to secure, owing to defects in memory, but more commonly to actual defects in observation. To prove this, show the same object to a dozen people, and then let each separately describe his visual appearance of it. People have to be trained to observe, though here, as in everything else, there are men who possess a natural aptitude for the work. I doubt very much whether without this natural aptitude a man will ever become an acute observer. Training, and training only, will make an accurate observer, and such training cannot be begun too early ; there are endless common objects which lend themselves to study. No horse should pass us that we should not look at. There is always something to see, something to observe, especially in the make and shape of the limbs and feet, and locomotion ; even a foot print is full of interest.

Not only the sense of sight, but the senses of hearing, taste, smell, and touch have to be educated for the purpose of diagnosis. A case of canker in a stable may be detected by its smell ; a roarer and a broken-winded horse may be known by the distinctive coughs without in either case the patient being seen ; the feel of a sprained tendon in the dark tells us as much as though it were in broad daylight. By the sense of hearing we can detect with certainty the existence of a loose shoe, though we may not see the horse. The sense of taste, though rarely employed, may occasionally be found of service. On this point a useful object lesson was one day imparted in the wards of a hospital in Vienna, and the story will bear repetition.

The Professor of Medicine was lecturing at the bedside on the disease known as diabetes, and the urine of the patient was produced for demonstration purposes. Addressing the students the Professor informed them that in acute cases of diabetes the amount of sugar passed may be sufficient to give the urine a strongly sweet taste. Dipping a finger in the urine, he put a finger in his mouth. The students crowding around did likewise, and there was a concensus of opinion that the urine was sweet, very sweet. The Professor then continued his address as follows : "And now, gentlemen, you have learned an important lesson as to the necessity for close and careful observation. If you had only observed me carefully, you would now know that I dipped my *first finger* into the patient's urine, and put my *second finger* into my mouth !"

I must pass now to a consideration of the other quality, *i.e.*, judgment. This is defined as the comparison of ideas to elicit truth. It is infinitely more difficult than the art of observation, and requires a longer apprenticeship. The judgment required of a practitioner is not only that which pertains to the study of disease ; but to the no less difficult subject of the study of man. Unless you become a good judge of human nature you will not make a successful practitioner, though you may be a veterinary surgeon of more than average ability. The judgment, however, that I desire to refer to is that connected with the diagnosis of disease. Every horse suffering from a pain in its inside is not suffering from colic ; our judgment must decide the point. Every animal with a swollen leg is not necessarily suffering from a sprain of the back tendon. Every horse that rubs himself is not affected with mange. And, generally, it may be stated that the mental analysis of symptoms and evidences constitutes the essence of judgment, which is directed by experience and the application of the senses. Of two horses discharging from a single nostril, in one case the discharge being odourless, in the other fœtid, the sense of smell has at once differentiated—I had almost said diagnosed—these cases. In the examination of horses for soundness—the most responsible part of our difficult work—the judgment is largely aided by the sense of vision. It is with the eye we take in all four limbs from every aspect, and the eye catches irregularities of shape and size that may not be felt. But even visual judgment is liable to extraordinary errors, as may be seen in the diagrams on the wall. (Exhibited).

Errors of judgment arising from defects in the sense of touch are also considerable. Some men have a very indifferently marked tactile sense, and are utterly unable to appreciate minute and important differences, a determination of which is probably of the utmost value. In the examination of horses for soundness, curb, spavin, ringbone, and sprain of the ligaments and tendons of the limbs, are, by some, wholly decided by the sense of touch, but even when vision is brought to its aid touch is still of extraordinary importance.

Errors of judgment from defective hearing are not so numerous, though the man who misses the "grunt" or faint whistle of a roarer may have to pay dearly for his loss of acoustic sense, while in clinical work it is a serious drawback in auscultation and other ways.

Defective eyesight is doubtless responsible for defective powers of observation. If the image is blurred it cannot be seen. Even a low degree of shortsightedness will make all the difference between a sharp observant man and an apparently stupid unobservant one. A man cannot observe what he cannot see, and I am certain that one of the qualifications for entering a veterinary school should be a correction of any visual defect. So much of our important work is done at a distance, that it is impossible to train a man properly with uncorrected defect in his sight. This will be clear to you when you remember the examination of horses for soundness, and the inspection of cases of lameness.

In order to be good practitioners, I urge you to train your observation and judgment, and be, as far as possible, independent of outside help in the diagnosis of disease. Look and see whether the patient does not tell you what is wrong. The absence of speech is no very serious disadvantage, excepting in cases of lameness, and

though the truth-saving advantages of a dumb patient may be neutralised by the untruthfulness and gross inaccuracies of those in attendance, the observant practitioner can silently afford to neglect most of what he hears.

Lastly, I have avoided, for the reasons previously explained, making any references to the duty you owe your parents and your teachers whilst students of this College, but this does not absolve me from reminding you of the duty you owe to the profession, the ranks of which we hope you will shortly join. You are the heirs to all the ages. You succeed to an estate in the construction of which you have hitherto taken no part. It is left to you as an inheritance, its upkeep and the maintenance of its standard are in your hands, for you will be living and in active practice when most of the present tenants are dead. On your shoulders, and that of all the younger men in the profession rests the grave responsibility of maintaining the honour, dignity, and technical standard of your calling. The future of the profession lies in the hands of its younger members. I am a firm believer in young men; mistakes they will make, no one is free from them; but remember, the man who makes no mistakes makes nothing. Youth is essential to progress, to new ideas, to energy and vitality. Youth in its broad sense of freshness and receptivity lasts until forty, and a man who has not been heard of before that age will never be known.

Speaking recently on the Universities of the Empire, Lord Rosebery said he did not ask that its members should have brains, because brains come wherever there is a career for ambition. If I were asked to place my finger on the weakest point in our constitution I should point to defective ambition The remedy lies in the hands of the younger men. Ambition is the very essence of a useful life.

Take, therefore, the opportunity now afforded you of equipping yourselves for the responsible duties which await you when you leave this institution. Strive for exactitude in everything. Think for yourselves. Be ambitious. And bear in mind that only the fringe of the great subject of disease has hitherto been touched. Endeavour to add something to the stock of common knowledge, and thereby leave the estate the richer for your tenancy.

The CHAIRMAN, in moving a hearty vote of thanks to the lecturer for his able address, said he was going to ask Major General Smith to allow him to differ from him in his estimate of the number of men who were impressed by the words of wisdom which were poured forth every October. He thought General Smith had estimated the figure rather low, and ventured to think that the wisdom with which the General had entertained them so much that day would have impressed itself on a very much larger number than one. (Applause.) He (the Chairman) might relate his own experience. He had had the honour on a former occasion to give the Introductory Address at the College, and he chose as a subject an educational one. He was also rash enough to give advice, and like General Smith he wondered whether it would impress itself on anyone at all. He was not left very long in doubt, because a few months afterwards he received quite a number of letters from gentlemen, all practically in the same strain—"I was very much interested in the lecture. I have done just exactly as you advised me, and now will you give me a job." (Laughter.) He was very pleased to say that it was possible to recommend those people for vacancies, and he only wished there had been a number more applying, because there were a good many more openings. That allowed him to say one thing which he never omitted to say when occasion offered, namely, that there was no profession at the present time which required recruits so urgently as the veterinary profession. He did not think any man need despair of making a tolerably good living, and sometimes a very good living, if he qualified properly and—behaved himself. He thought all present would agree with him when he said that they had listened to both an entertaining and wise lecture from Major-General Smith, and he asked them to give the General a hearty vote of thanks.

The vote of thanks was carried with acclamation.

Major-General SMITH, in reply, said he desired to thank his audience for the hearty manner in which they had received the vote, and to thank Mr. Stockman for the far too flattering terms in which he had proposed it. He could assure them it had been a very great pleasure indeed to him to be present that day to address the students of his old school. One was naturally very much tempted to look back, and sitting there he was reminded very much of the time when he had occupied a position on the benches before him. It was only then that one fully realised that they were looking through opposite ends of the telescope of life. The students lives were before them, his own was behind. He could only say that he envied the opportunities they had of acquiring information, and the life that lay before them in its application. (Cheers.)

Principal Sir JNO. M'FADYEAN, in presenting the list of successful prize winners, said he wished he could say that the successful men constituted the twenty odd Zadigs who had honoured the College by attending last session. As a matter of fact he was afraid that that would be unjustifiable flattery. He did not wish for a moment to depreciate the severity of the tests to which those gentlemen were subjected, but he was afraid it must be admitted that they probably were not of a kind that would have brought Zadig himself into the prize list. If he might be allowed he would tell a story which was a good deal *apropos* of what they had been listening to, and had the merit of being true. It was told him by a member of what was often called the sister profession—a doctor in practice, and that doctor had told it to him as an extraordinary illustration of the remarkable powers of diagnosis possessed by young veterinary surgeons of the present day. (Cheers.) The gentleman had a brother who was a veterinary surgeon. He was spending his holidays with this brother, and occasionally used to amuse himself by driving about either with his brother or with his brother's assistant to see cases in every day practice. On one of those occasions it was his brother's assistant whom he accompanied—quite a young man who had only qualified a few years previously. When they had driven into the country some miles they pulled up at a farm and when they stepped out they met the farmer who promptly conducted them to the patient, in this case a cow. The cow was standing in the cow byre with a piece of sacking over her back. The farmer said he thought she had pneumonia and had applied mustard to her sides. The young veterinary surgeon proceeded to examine the cow, and to this end he devoted perhaps five minutes. At the end of that time he stepped back and said to the owner, "Your cow is suffering from pericarditis, and I think in all probability she has a pin in her heart." The owner, being a sensible man, said, "You ought to know. What do you suggest should be done with her?" He said, "The cow will do no good. I advise you to have her slaughtered." "Very good," replied the farmer, "we will have it done now," and they had the cow there and then killed. She was post-mortemed in the presence of the owner and the medical man, and when the chest was exposed and the pericardium slit up it was found that the cow was the subject of pericarditis and that there was a pin the heart. Now although he agreed that what had fallen from General Smith was pure wisdom, and that it deserved their very closest attention, he nevertheless ventured to think that if Zadig could have been brought to life and asked to

make a diagnosis in the case of that cow, he would not have shone by comparison with the young veterinary surgeon. He desired to point out why that was so—and this also was contained in Major General Smith's address. It is that the modern student is "the heir of all the ages." (Hear, hear). The young veterinary surgeon who had made that diagnosis was able to make it because he knew that ninety-nine per cent. of cases of pericarditis in cattle were caused by foreign bodies; and there was no mystery about it at all. There was no occasion really for the veterinary surgeon in question to feel remarkably proud of himself. He (the Principal) would in reality be ashamed of the graduates of that Institution if they had failed to make a diagnosis under the same circumstances. He had said what he had in order to point out that the examinations which were conducted in the College throughout the Session were not so much perhaps tests of the powers of observation as tests of the acquaintance which the students, under all circumstances, had been able to make with little parts of that great estate which was theirs. (Applause).

Prize List.

Coleman Prizes.—Silver medal: Mr. P. R. Viljoen; Bronze medal: Mr. R. H. Knowles; Certificate of Merit: Mr. S. J. Gilbert.

Centenary Prizes—Class A: Mr. T. J. Bosworth; Class B: Mr. H. H. Curson; Class C: Mr. H. W. Dawes; Class D: Mr. R. H. Knowles.

Royal Agricultural Society's Medals.—Silver medal: Mr. S. J. Gilbert; Bronze medal: Mr. R. H. Knowles.

Ralli Prizes in Practical Surgery.—1st Prize, £5 5s.: Mr. E. B. Reynolds; 2nd, £3 3s.: Mr. P. R. Viljoen; 3rd, £2 2s.: Mr. S. W. Marriott.

Clinical Prizes.—Class A.—1st Prize: Mr. J. E. Barnes; 2nd: Mr. P. R. Turner; 3rd: *æq.* Mr. E. O'Kelly, Mr. E. Wallace.

Class B.—1st Prize: Mr. E. E. Jelbart; 2nd: Mr. C. H. S. Townsend: 3rd: *æq.* Mr. H. H. Curson, Mr. W. H. Wortley.

Class C.—1st Prize: Mr. H. Hicks; 2nd: Mr. A. R. Smythe; 3rd: Mr. W. L. Sheffield.

Class D.—1st Prize: Mr. S. J. Gilbert; 2nd: Mr. E. B. Reynolds; 3rd: Mr. K. J. S. Dowland.

Class Prizes.—Class D. Veterinary Medicine—1st Prize. Mr. R. H. Knowles; 2nd: Mr. S. J. Gilbert. Surgery—1st: Mr. R. H. Knowles; 2nd: Mr. P. R. Viljoen.

Class C. Pathology—1st Prize: Mr. R. Daubney; 2nd: Mr. H. W. Dawes. Hygiene—1st: Mr. H. W. Dawes; 2nd: *æq.* Mr. W. B. Howe, Mr. R. Daubney. Materia Medica—1st: Mr. H. W. Dawes, Mr. J. M. Penhale.

Class B Anatomy—1st Prize: Mr. W. H Wortley; 2nd: Mr. H. H. Curson. Histology—1st: Mr. H. H. Curson; 2nd: Mr. A. G. Lalor. Physiology—1st: Mr. J. F. D. Tutt; 2nd: Mr. G. H. Melck.

Class A. Chemistry and Toxicology—1st Prize: Mr. T. J. Bosworth; 2nd: Mr. H. V. M. Metivier. Practical Chemistry—1st: Mr. T. J. Bosworth; 2nd: Mr. H. V. M. Metivier. Biology—1st: Mr. T. J. Bosworth; 2nd: Mr. P. R. Turner. Minor Anatomy—1st: Mr. T. J. Bosworth: 2nd: Mr. R. H. Penhale. Physics—1st: Mr. T. J. Bosworth; 2nd: Mr. R. H. Penhale.

Sir Thomas Elliott said he was sure it would be the wish of the audience to pass a very hearty vote of thanks to his friend and colleague, the Chief Veterinary Officer of the Board of Agriculture and Fisheries, Mr. Stewart Stockman, for the way in which he had presided over the meeting that afternoon (Cheers). He (Sir Thomas) confessed that as he listened to General Smith's address—and a more charming and admirable address he had never heard in that Hall—he could not help remembering how much the country had been indebted during the last three months to the observation and judgment of Mr. Stockman and his colleagues in connection with the recent outbreaks of foot and mouth disease (Hear, hear). It was a tremendous responsibility to say definitely "yes" or "no" whether particular lesions in cattle were lesions of foot and mouth disease or not. The consequences of a judgment of that kind were enormous, and he was delighted to think that Mr. Stockman and colleagues had come out of a tremendous ordeal with such satisfactory results to the country at large (Hear, hear). He had listened to the parable of Zadig with great interest, because he rather thought, and he thought Mr. Stockman would agree with him, that Zadig was what they called in Ireland "a knowledge able person" (Laughter). He (Sir Thomas) would sooner have trained students of the Royal Veterinary College than a good many Zadigs when foot and mouth disease had to be dealt with. He thought the College had been most fortunate that afternoon in having the combination of Mr. Stockman as the Chairman and General Smith as the Lecturer. A more appropriate choice could not have been made. They had served their country with distinction in South Africa; they had served their country with distinction at home; they were serving the Royal Veterinary College, and they were serving the veterinary profession (Cheers) A more happy combination he thought could not be made, and he was glad to look in front of him and see, without mentioning or specifying them, the General Smiths and Mr. Stockmans of the future.

The vote of thanks was then put and carried with acclamation.

The Chairman, in acknowledging the vote, said he little thought he would have to reply to such a flattering description of himself as has had been given by Sir Thomas Elliott. He could only assure them that much of it had come out of the kindness of Sir Thomas's heart. He (the Chairman) had always remembered him as a very great friend of the veterinary profession and a man who had always believed thoroughly in its usefulness. If he attempted to thank Sir Thomas for all the things he had done for the profession it would take up a much longer time than the audience would care to stay. He was exceedingly pleased to have been able to preside that afternoon, and to have received such a hearty vote of thanks (Cheers).

The Irish Cattle Trade

The Times of Monday contained the following:—

"We have received from the Board of Agriculture the following statement:—

In view of the fact that no outbreak of foot-and-mouth disease has occurred in Ireland, outside the Fermanagh and Kildare scheduled areas, since August 19, arrangements are being made by the Board of Agriculture and Fisheries by which cattle shipped from specified ports in Ireland for store purposes will be allowed to be landed at special landing places to be provided for the purpose at Birkenhead, Manchester, Cardiff, Hull, and Newcastle, and possibly at other ports if suitable accommodation is available. The cattle will be detained at the landing places for a period of not less than four days from the time of sailing, during which period they will be marked, examined, and kept under continuous supervision by the Board's veterinary inspectors. They will not, as yet, be allowed to be sent from the landing places to English markets, but they will be allowed to be moved, under licence, after the expiration of the detention period, direct to the buyers' premises. During transit they will be kept separate from other animals, and on arrival they will be

required to be detained and kept under the supervision of the veterinary inspector of the local authority for a further period of three weeks.

The Department of Agriculture and Technical Instruction for Ireland have undertaken to make arrangements for the examination of every animal by a veterinary inspector prior to shipment, and for its detention for not less than two hours, during which time it must be fed and watered.

The existing arrangements as to the landing of fat stock for slaughter at the foreign animals wharves will remain in operation, but the maximum period within which slaughter is required to take place will be ten days in all cases.

The Orders which prohibit the movement of animals out of the Fermanagh and Kildare scheduled areas and out of other areas in the counties of Louth, Meath, and Dublin, in which outbreaks have occurred, will remain in force, and they will not be withdrawn by the Irish Department without the concurrence of the Board.

It is probable that the Orders of the Board will come into force on October 7, provided that no further outbreak of disease in Ireland occurs.

The Irish Department of Agriculture announces that a further case of foot-and-mouth disease was confirmed on Wednesday on a farm at Dunlavin, co. Wicklow, within a mile of a place already infected.

How to Fatten Horses.

Charles May, carman, was charged at Thames Police Court, on Tuesday, Sept. 17, with cruelty to a horse by working it when in an unfit condition; and Lewis Kauffman, his employer, a baker, of Edward Street, Stepney, was summoned for allowing the same to be worked.

Police-constable 442 H stated that while in Sidney Street he saw May and another man attach a brown horse to a light covered van. The witness afterwards pointed out the condition of the animal to the owner and May. The latter stated that he would get another horse, and went on to say, "When I told the governor it was ill, he said, '—— it. It has had three days' rest.' I have been putting cold water rags on its legs." Kauffman offered the witness money.

Mr. A. W. Wilson, veterinary surgeon, stated that the horse was very fat, and he should say that it had been fed on bread. It was a common thing for bakers to feed their horses on stale bread, which was very fattening. The horse was very lame on both fore and near hind limbs, and was incurable. The animal ought to be destroyed.

Mr. Young, for Kauffman, said that two or three months ago the latter gave 25 guineas for the horse. He was now prepared to have the horse destroyed.

Mr. Dickinson fined Kauffman £3 and £1 16s. 6d., and discharged May. His worship ordered the horse to be destroyed.—*East End News.*

DISEASES OF ANIMALS ACTS 1894 TO 1911, SUMMARY OF RETURNS.

Period.		Anthrax. Outbreaks Confirm'd	Anthrax. Outbreaks Reported	Anthrax. Animals Confirm'd	Anthrax. Animals Reported	Foot-and-Mouth Disease. Outbreaks	Foot-and-Mouth Disease. Animals.	Glanders † (including Farcy) Outbreaks	Glanders † (including Farcy) Animals.	Parasitic Mange. Outbreaks	Parasitic Mange. Animals.	Sheep Scab. Outbreaks	Swine Fever Outbreaks.	Swine Fever Slaughtered. *
GT. BRITAIN. Week ended Sept. 28		5		5		3	44	3	7	20	28	2	27	445
Corresponding week in	1911	20		24		1	16	5	22			1	33	374
	1910		17		17			8	22			2	28	234
	1909		25		31			15	36			2	15	201
Total for 39 weeks, 1912		594		674		81	299	138	259	2422	5240	177	2345	30997
Corresponding period in	1911	648		803		9	441	153	368			311	1921	22347
	1910		1081		1289	2	15	288	861			350	1090	9864
	1909		986		1310			420	1500			476	1323	11987

† Counties affected, animals attacked: Kent 1, London 6.

Board of Agriculture and Fisheries, Oct. 1, 1912.

										Outbreaks			
IRELAND. Week ended Sept. 28		...	...	1	2	...	...	...		1	3	9
Corresponding Week in	1911 ...	...	...	...	...	...	...	...		4	2	57
	1910 ...	...	...	...	...	...	...	2		6	...	1
	1909 ...	..	...	...	...	...	...	...		2	...	48
Total for 39 weeks, 1912	...	3	3	29	261	...	...	52		267	186	1509
Corresponding period in	1911 ...	7	14	...	...	2	3	52		265	104	1765
	1910 ...	5	8	...	...	1	2	60		364	73	1703
	1909 ...	6	6	...	...	...	...	67		309	86	1561

† These figures include animals slaughtered and found affected on post-mortem examination.

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, Sept. 30 1912

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection

ARMY VETERINARY SERVICE.

Extract from *London Gazette*.

WAR OFFICE, WHITEHALL, Oct. 1.

REGULAR FORCES. ARMY VETERINARY CORPS.

Capt. D. Bolton to be Major. Dated Sept. 29.

Lieut.-Col. R. W. Raymond has been granted six months six leave of absence.

The following moves of officers have been ordered :—

Lieut.-Col. E. W. Larnder from Curragh to Woolwich to take up the duties of officer in charge of Army Veterinary Corps Records and Army Veterinary Stores.

Major W. D. Smith from Portsmouth to York to take up the duties of acting Principal Veterinary Officer Northern, Scottish, and Western Commands.

Major W. A. McDougall from Dublin to Curragh to take up the dutes of acting Administrative Veterinary Officer.

Major F. W. Hunt from Bordon to Tidworth.

Capt. B. L. Lake from Shorncliffe to Bordon.

Lieut. F. B. Hayes from Aldershot to Bulford.

Lieut. W. Halstead from Aldershot to Colchester.

Personal.

Mr. CLEMENT BAXTER, M.R.C.V.S., Elgin, has taken over the large practice acquired a few years ago by his brother-in-law, the late Mr. James G. Tait, of Christchurch, Hampshire.

Mr. Baxter's practice has been acquired by Mr. Wm. Laing, M.R.C.V.S., Tariff, a son of Mr. Peter Laing, Keith, who is well known and highly respected in agricultural circles in Moray and Nairn. Mr. Laing comes to Elgin with a high reputation as a veterinary surgeon. He gained first-class certificates and many medals at the Royal (Dick) Veterinary College, Edinburgh, in 1905, and acquired further valuable experience in a post-graduate course under Sir John M'Fadyean, in London. During his professional career he has been in practice at Perth, Huntly, Tarland, and other places in the north.

OBITUARY

JOHN MARSDIN, V.S., Thorne, nr. Doncaster.

Death took place at his residence, Field Cottage, Thorne, on Monday, Sept. 16th, in his 56th year. He was well known and highly respected, and the news of his death will be received with regret. He has acted as hon. veterinary surgeon to the Thorne Agricultural Society for a long period, and during three years served on the Parish Council and as a library commissioner. He was a Conservative and a Freemason.

CORRESPONDENCE.

CASTRATION AND ANÆSTHETICS.

Sir,

I have just been reading a well written article entitled "A new type of character evolved by the automobile," and sometimes I wonder if the arguments therein do not apply to the standing operator.

With your kind permission I should just like to reply to Mr. E. B. Reynolds, especially as he is so disappointed with my views on castration. First of all let me disclaim at once that I doubted Mr. Townsend's word as to the number of colts he had castrated. The thought struck me when I wrote what I did in this connection that 150 colts a year, say for 20 years, was enough work of its kind for any veterinary surgeon during one lifetime, bearing in mind that the operation is a simple one and, as performed standing and with wooden clams, has no intricate surgery about it, and certainly no application of the modern cardinal principles of surgery. As regards standing operators cutting prices to 5/-, I know above one instance where this has been done, and not by unqualified men—and the journey into another man's district has been thrown in at that. The operation is so quickly and easily done that the mind of some men doesn't soar above 5/- in connection with it, and another job taken in at the same time makes one busy, and a tradesman's estimate of the cost is made rather than that of a professional man. Some men don't cut prices to get work, they cut them to gain notoriety, show their cleverness, and satisfy a vein of vanity in their composition. As regards the much-talked of "acrobatic surgery" let me here and now declare that I never run it down because it may be acrobatic. So long as it is *real* surgery I care not a button whether it is acrobatic, intricate, simple, elaborate, or whether a man performs it standing on his head.

As a primary premise, and just to put one aspect of the matter before the considering man, let me ask how many times in the standing operation wooden clams are used *twice* over? I know a few surgeries where the stew pan is a regular institution. Think of these facts and then meditate on the cardinal rules of surgery, or let us say half these cardinal rules for a start, and let the standing operator ask himself a simple question. Of course there will be a cry that wooden clams are sterile, and are seldom or never used twice over, but I know, and I have seen what I am writing about. This is only one of many reflections I could make on the standing operation with wooden clams.

A frank and conscientious qualified standing operator who was no novice once told me that the standing operation could never be defended on surgical principles. It brought grist to the mill, hence its vogue. I respect that man until this day, and always shall. In my opinion the man who can administer chloroform properly and castrate a colt is more skilled than he who operates without an anæsthetic. The argument that giving an animal chloroform causes fear and terror has nothing in it. The man who goes to a dentist has fear and terror before he gets into the operating chair, but nine out of ten nervous people don't refuse gas or chloroform in consequence. In Germany both chloral and morphia have been used frequently in the standing operation, but as showing how little the army of standing operators think about the matter here (except to follow my leader and practise rule of thumb procedure) these things have not been mentioned.

How few men yet also appear to have considered that by looking into the operative wound in a recumbent colt *before* letting him up, an unrevealed hernia may be seen and dealt with, but not so in the standing operation.—Yours faithfully,

G. MAYALL.

Sir,

There are a few points in Mr. Brayley Reynolds' letter which merit criticism.

1. He makes a quotation from an editorial in another paper, and evidently agrees with the writer of it. "There can be no doubt that to give an animal chloroform causes great fear, even terror, and if this mental fear can be considered pain, then there are many surgical operations where it may be an added cruelty to give chloroform." Now can anyone seriously suggest that this "mental fear" can be considered pain. The writer of the editorial was evidently doubtful, because he uses the word "if." And who is to judge of the extent of "mental fear" in animals. Why not apply a similar argument to operations on human beings, where mental fear can, and does, exist. The suggestion of chloroform being an added cruelty to surgical operations on animals is really too grotesque.

2. "From the not uncommon occurrence of harmful sequelæ following its administration." I would ask Mr. Reynolds what foundation he has for making this statement. Is it based on his own experience, or on that of others? If he has "tortured" a number, well into four figures, of horses of all ages, he surely cannot possess any

experience with chloroform so far as castration is concerned.

As regards the travelling gelders becoming experts in anæsthesia, I still doubt the fact. Even if it were possible it would prove a good object lesson to those qualified practitioners who do not use chloroform, either from inability, laziness, or prejudice.

With reference to insurance, by the adoption of chloroform the risks are lessened to a marked extent. In the standing operation no doubt the important matter is the insurance of the operator.

3. I do not agree that, because Mr. Reynolds is fortunate enough to get a fee of two guineas for castrating thoroughbred colts, my statement is confounded. Why do the farmers pay such a fee? Is it because of the special skill of the operator in performing an operation of so simple a nature that travelling gelders are experts at it? If Mr. Reynolds is as capable of extolling the merits of the standing operation to his clients as he is in writing in praise of it, I do not wonder that the innocent farmers "part" with their two guineas so readily. They certainly would not pay this amount for the "common or garden" operation.

Mr. Reynolds thinks the Bill will tend to play into the hands of the surgical specialist. But at the present time, without any Bill, is not the operation tending to fall into the hands of the "standing operators," or their brothers-in-arms the travelling gelders. It is now time that the "surgical specialists" got a chance.

Again, we find the statement "very few fight from real viciousness." If Mr. Reynolds will pay a visit to this district I am quite sure that he will find the element of fear very little developed in the unhandled colts, but the power and ability to use either fore or hind limbs will soon be put in evidence.

Finally, I would ask Mr. Reynolds why it is that the swelling is less after the standing operation? If it is a fact there must be some explanation. He does not state the method of operation he adopts, but seems to favour that very scientific (?) procedure, the "clams."

What an amount of "fetish" exists with reference to the very simple operation of castration. What does it all amount to? An incision in the tissues of the scrotum, and section of the spermatic cord in a manner so as to seal the spermatic artery. Still there is more difference of opinion, more varieties of procedure, and more crude surgical methods adopted than is the case with any other veterinary operation. Why, in order to prevent hæmorrhage, it is considered necessary to apply to the spermatic cord two pieces of wood enclosing a caustic application, to squeeze these on the cord tightly, and let them remain *in situ* till the following day, and then pay another visit to remove them, is one of those mysteries that many cannot understand. And why the effect should be different when the procedure is carried out with the animal in the standing posture than when he is cast, is another of the mysteries.

It would be interesting to hear some more with reference to the amount of "fear" and "terror" induced by chloroform, of course this information can only be given by operators who have had extensive experience in the use of this anæsthetic. Those who only adopt anæsthetics occasionally are more likely to suffer from this "fear" and "terror" themselves, in consequence of imagining the occurrence of fatal results.—Yours etc.,

E. Wallis Hoare.

Sir,

In reply to Mr. Brayley Reynolds I would like to inform him that in pinching the cord twice the animal does not suffer double the pain. He has evidently had no practical experience of the method or he would have found that the colt did not struggle when the cords were pinched the second time and the testicles removed. I have done hundreds like this and I don't remember one struggling at the second pinch, the reason being that the nerves were so severely crushed at the first pinch as to lose their function below the seat of injury. He asks how we are to know when the cord is crushed sufficiently under an anæsthetic? An experienced operator could tell by the resistence to the turning of the handle and the tension of the chain of the ecraseur. A practical man would probably use his eyes and see how far the chain had penetrated into the substance of the cords. I may add that I put both cords into the chain at the same time. I contend that a sensitive nerve that has been severely crushed in the chain of an écraseur whilst still retaining its sensibility on its proximal or brain side, it totally loses its function below the seat of the injury.

J. H. Parker.

VETERINARY EDUCATION.

Sir,

I have been interested in the recent communications on the subject of veterinary education appearing in this paper. I graduated three years ago at the London College, and afterwards took the post-graduate course, and I think that the ideas of a recently graduated man may be interesting to some of your readers.

I agree with General Smith that students should have more practical knowledge before receiving their diploma, and I think the only really satisfactory way of making this possible is to move the College into the country. Students would then be enabled to obtain a thorough knowledge of the habits of the domesticated animals in health and disease. The processes of dairying, rearing young stock, feeding animals etc., could be properly mastered. A riding school could also be arranged for. The surroundings would be healthier and better than those at Camden Town. Healthy sports could be indulged in, and in practising these, the student would often be learning something at the same time. Riding over the fields to a calving case would do a student as much good physically as playing tennis or cricket, and a keen man would often prefer to take to take exercise in this way.

The present financial difficulties of the Royal Veterinary College no doubt prohibit this step at present, but possibly if a scheme were drawn up and submitted to the Government, they would be more ready to help us than they have been in the past.

I hope I shall not be considered forward if I suggest that a few alterations in the present method of educating students would be advisable. Without touching on the question of extending the course to five years, I think a lot could be done to turn out men with more practical knowledge. Examiners and Professors could combine and agree to cut out "cramming work" as much as possible.

To give one example: What is the good of a student retaining in his head on one particular day (the examination day) the tests for nearly all the chemical substances, the various processes by which they are obtained from their natural state? What he requires is a thorough general idea of the principles of chemistry. The average mind requires hours of tedious work to commit to memory such facts as these, but alas, how many hours does the average mind take to forget them. The effort has reduced the man to a state of mental exhaustion, to very little purpose.

There is a good forge at the College, and at certain hours the students should attend the forge, and take off their coats, and master the art of shoeing, so that in after years they would be in a better position for instructing others in the work. Every man also should learn to groom horses—even to look after them for a certain period would not be out of the way. This kind of thing can be performed inside the walls of the College, without a man losing his self-respect.

Finally, a system of pupilage should be arranged for. This system would be of benefit both to students and to practitioners.

These remarks are the honest opinion of one who is most anxious for the advancement of the profession, and in no way does he wish to undervalue the splendid work, which is being performed at the present time by our zealous teachers.—Yours faithfully, "Recent Graduate."

Original articles and reports should be written on one side of the paper only and authenticated by the names and addresses of the writers, not necessarily for publication.